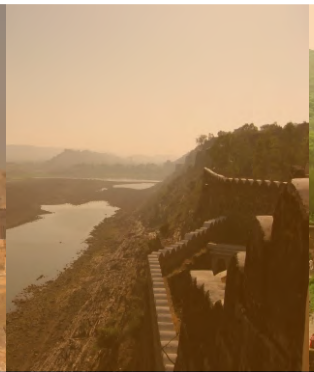
Nomination of
Hill Forts of Rajasthan
for inclusion on World Heritage List





2

Description

2a. Description of Property

Jaisalmer

JAISALMER

SUMMARY

The fort of Jaisalmer is strategically located on the top of a sedimentary rock mass that is the same type of stone used to construct its structures. The fort of Jaisalmer covers a triangular hill called Trikuta Hill rising 76 meters above the surrounding plain and 457 meters across at its widest point. The Fort with the city within, set atop the hill, is approximately 30 meters higher than the Jaisalmer town at its base. Roughly triangular in plan, the Jaisalmer Fort measures approximately 1500 feet north to south, and 750 feet east to west, and follows the contours of the hill on which it is perched. This living fortress city, with 2,500 residents on a plateau elevated 250 feet above the surrounding landscape, is circumscribed by a retaining wall with 99 bastions, mori, slope and pitching. The irregular polygonal Fort has a double line of fortifications. The overall form of the Fort manifests itself through these 'bastioned' fortification walls, which to an extent also act as retaining walls. The stone bastions are mostly circular in shape and occasionally rectangular. Once inside the Fort the entire complexion changes as amazing vistas open out. The cuboid palaces and dwellings contrast with the cylindrical bastions, yet both co-exist in piquant harmony. The focal point of the Fort is the palace complex. Apart from the palace buildings and several temples, most of the other structures of the Fort are residential houses. Aesthetics, is one of the most important dimensions, which paramount all other factors at Jaisalmer fort. Almost all the regal structures inside the fort are built of sand stone and mortar. The majestic, magnificent and elegantly carved front façade not only add aesthetic sense but also rejuvenate the memories of the golden regal era, when all the courtly nobleman resided within the fort premises.

View of the Jaisalmer Fort, the fortification walls, Entrance and a temple inside the fort.

Source: Archaeological Survey of India

- **Site context**

The fort of Jaisalmer is strategically located on the top of a sedimentary rock mass that is the same type of stone used to construct its structures. The fort of Jaisalmer covers a triangular hill called Trikuta Hill rising 76 meters above the surrounding plain and 457 meters across at its widest point. The

Fort with the city within, set atop the hill, is approximately30 meters higher than the Jaisalmer town at its base. The coordinates of the location are: longitude 69.3 to 72.2° east, latitude: 26.01 to 28.02° north. The fort is located at an altitude of 242 meters above mean sea level. This three peaked hill, locally called trikuta, was chosen as the site for the citadel for its sheer prominence and also because of the presence of a water body (now Lake Gadisar) in the vicinity.

View of the Jaisalmer Fort, the fortification walls which follow the outline of the hill as if growing out of the rock, the Trikuta Hill, and the town below.

Source: World Monuments Fund

- **Site Planning**

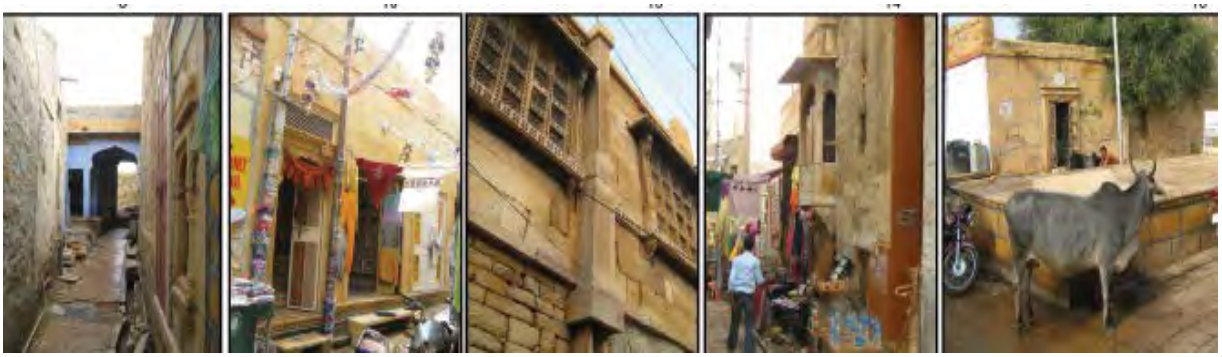
Roughly triangular in plan, the Jaisalmer Fort measures approximately 1500 feet north to south, and 750 feet east to west, and follows the contours of the hill on which it is perched. This living fortress city, with 2,500 residents on a plateau elevated 250 feet above the surrounding landscape, is circumscribed by a retaining wall with 99 bastions, mori, slope and pitching. Below lies the city of Jaisalmer, with a population of 38,000, and beyond the plains of the Thar Desert. Because of Jaisalmer's desert location, dry masonry was employed for construction. The distinctive golden-colored sandstone that gives Jaisalmer its celebrated glow is still locally quarried and continues to be used as a building material.

View of the Jaisalmer Fort, with the different structures from 12th-18th century AD

Source: World Monuments Fund

The irregular polygonal Fort has a double line of fortifications. The overall form of the Fort manifests itself through these 'bastioned' fortification walls, which to an extent also act as retaining walls. The stone bastions are mostly circular in shape and occasionally rectangular. Once inside the Fort the entire complexion changes as amazing vistas open out. The cuboid palaces and dwellings contrast with the cylindrical bastions, yet both co-exist in piquant harmony. The focal point of the Fort is the palace complex. Apart from the palace buildings and several temples, most of the other structures of the Fort are residential houses.

There is only one point of entry to the Fort, which is a winding path leading through a series of gates that functioned as check points. Apart from the palace buildings and several temples, most of the other structures of the fort were residential residences houses. These dwellings, which form the bulk of the buildings in the fortress, were typically narrow, deep houses with courtyards. There were traditionally about 600 families living in the fort. Most of the bastions originally built for defense, have been converted and used as habitations for some time in the past. Unlike other forts that were built purely for defense, the Jaislamer fort has always had people living within. This is an inherent part of the nature and character of the fort, giving it the unique distinction of being a 'living fort'.



Jaisalmer—A Livinf Fort

Source: Dronah

- **Architectural Form and Details**

Aesthetics, is one of the most important dimensions, which paramount all other factors at Jaisalmer fort. Almost all the regal structures inside the fort are built of sand stone and mortar. The majestic, magnificent and elegantly carved front façade not only add aesthetic sense but also rejuvenate the memories of the golden regal era, when all the courtly nobleman resided within the fort premises. The workmanship is of highest order and it difficult to comment that the carving is on stone or that on wood. The structures/Havellis have well sculptured façade, the projected jharokhas, balustrades or latticed

windows and highly decorative and ornamented porches and columns define the general characteristics of the building.

The structure has a wide range of building typologies and is a architectural marvel as well as all the structures have distinctive design vocabulary. The fort houses around 469 structures all in yellow sand stones and all are exemplary example of fine workmanship. The scale and volume of the fort is very massive. The 5-7 feet long wall which envelopes the fort is supported by 99 massive bastions, which interrupts the wall at different distance.

Exquisite carving on stone is a common feature in Jaisalmer fort,

Source: Dronah

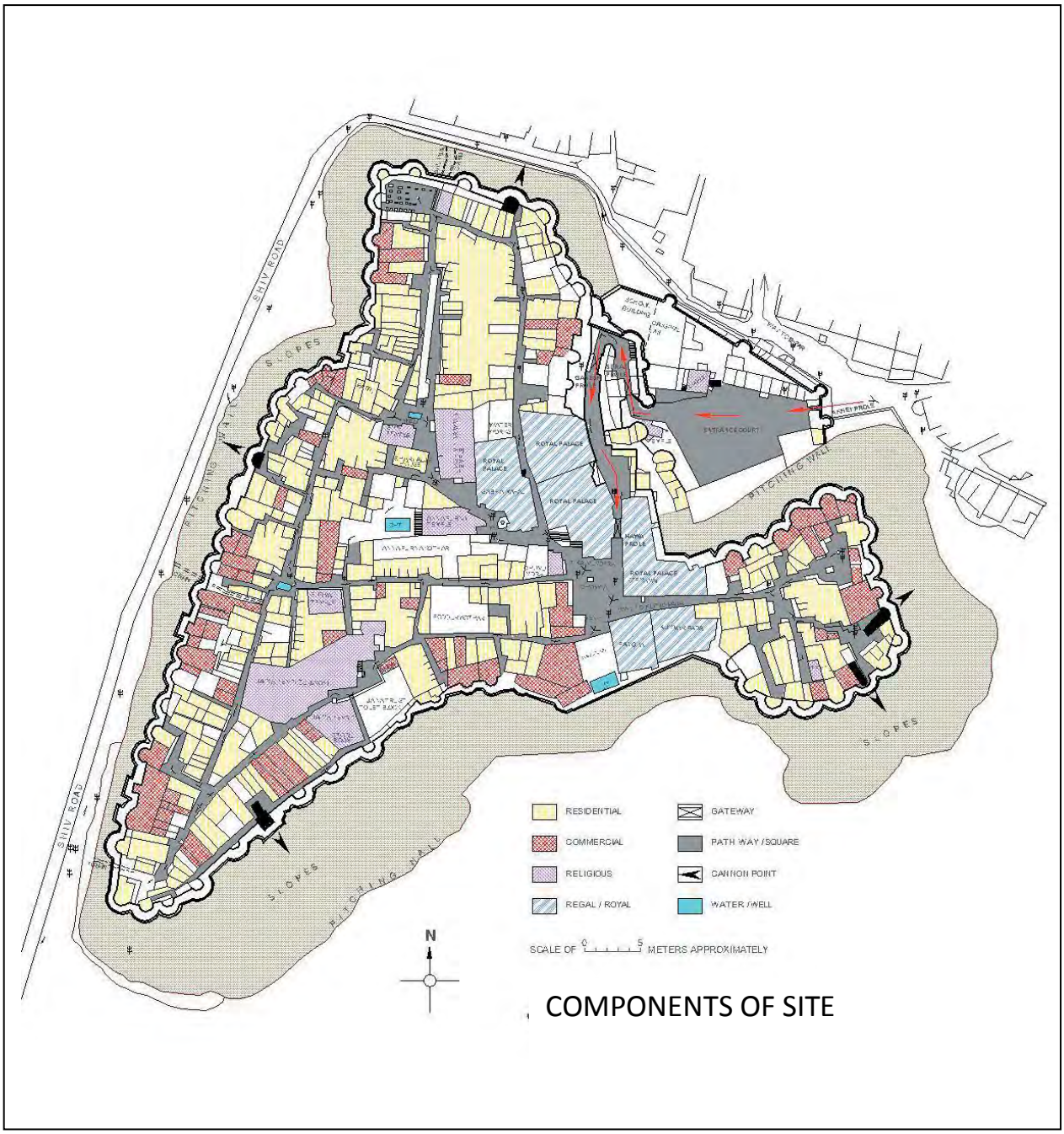
Views to and from fort

Views from fort of the settlement

View of the fort

2a. Description of Property

2.250 JAISALMER



COMPONENTS OF SITE

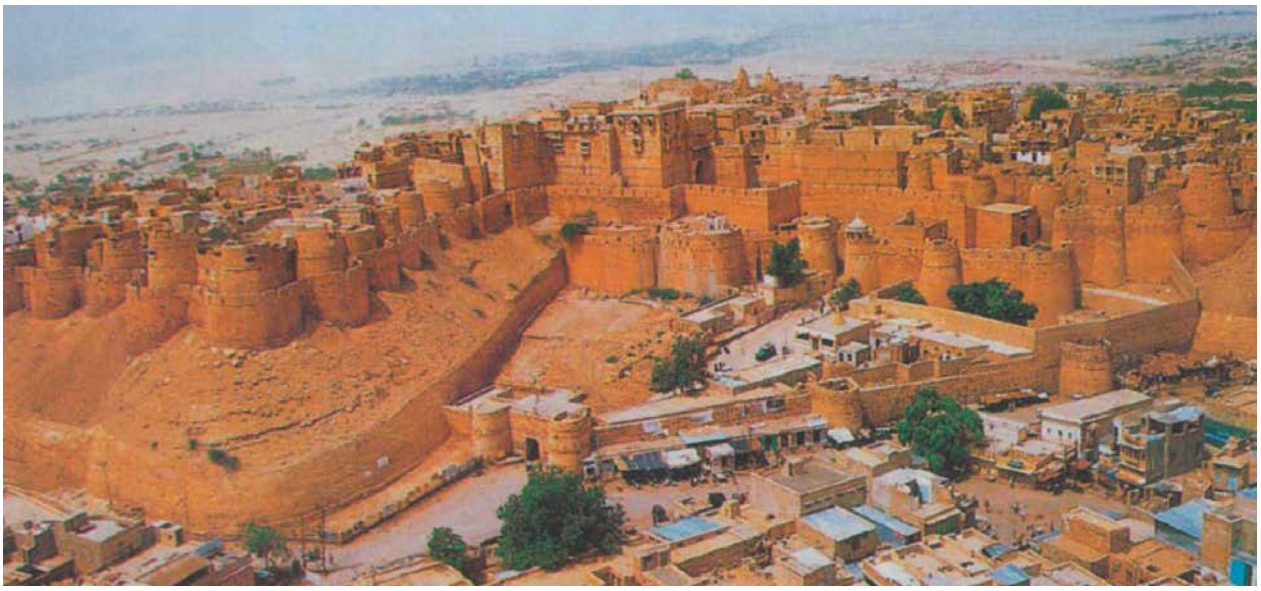
FORT WALL AND BASTIONS

- **Fort Walls and Bastions as shown on the plan (F1)**

Period of construction 13TH -14th century onwards **Patron** Mool Raj I (1315 – 1316)

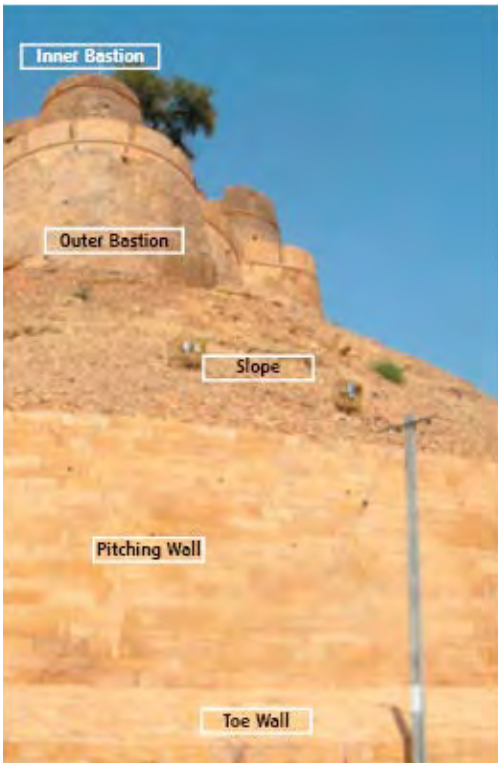
Usage Defense

- **Architectural Form**



The fort walls built and strengthened over several centuries
Source: World Monuments Fund

The architectural style of the fortifi cations that make up Jaisalmer Fort is unique, and the same holds good for the rather distinctive constituent elements of the fortifi cations. A detailed description of the fortifi cations and their constituent architectural elements is provided in this section.



The constituents of Fort wall
Source: World Monuments Fund

PITCHING WALL

The triangular hill on which Jaisalmer Fort was built, consists mostly of soft clay as its base. The upper slopes have in parts some soil and loose rock. These slopes have a pitching wall built up of local Jaisalmer stone blocks, running round the base of the hill. This wall, pitched on to the slope with interlocking dressed stones, is of dry masonry construction and ranges in height from 2.9 meters (north and south) to 9 meters (east). It was originally intended merely to maintain the slope and not to withstand any lateral loads, to which it is increasingly being subjected to today. It functions not for defense, but primarily as a retaining wall

that circumnavigates the base of the Fort hillock and holds back the clay within the lower slopes. The total length of the wall is around 1.36 kilometers.

TOE WALLS

Constructed at some points along the foot of the pitching wall of the Fort, the stone base paving varying in height from about half to one meter, forms the toe wall of the Fort. Historically, these walls formed the outermost edge of the Fort, as beyond them originally only sand dunes were located. Local historian N K Sharma believes that the rainwater from the Fort would fall over the sloping Fort walls and over these toe walls into a moat located beyond. However, no evidence of a moat exists today and this conjecture remains to be verifi ed.

View of the pitching and Toe wall, Source: World Monuments Fund

SLOPE

The embankment encircling the upper fortress and containing the area within the outer fortifi cation walls and the pitching walls is known as the slope. Originally, the slope was used as a dumping place for building material and all other household waste. At present, the slope is completely covered with debris (upto 2 meters depth at places) consisting of waste material, collapsed bastion

- **Construction Materials**

The walls are made of massive stones, rising on the rocky boulders of the hilltop as solid foundations. The dressed stone masonry in lime mortar is a typical technique for forstifications of Kumbha's time in mide 15th century AD.

OUTER FORTIFICATION WALLS WITH BASTIONS

The outer fortification walls including its half bastions and occasional rectangular bastions are entirely constructed of dry sandstone masonry and vary in height from 4 to 6 meters. Located on the edge of the escarpment, and following the contour of the summit, the outer wall was constructed primarily for defense purposes and it defines the outer edge of the mori. Its crenellations are punctured at various levels by view ports for easy visibility of the landscape and to keep track of the movement of the enemy.
At the junctions of the outer bastion walls and the slope, where no solid bedrock strata were available, remnants of foundation walls are still visible. The lower portions of the outer wall have today either been buried under excessive debris of the slope, or where exposed are eroded, revealing the layers beneath.

View of the sloped embankment of the fort.

Debris lying along the slope

1) Crenellations

The outer bastion walls throughout the periphery of the Fort are topped with crenellations or 'khanguras' (parapets). These are built of sandstone blocks, usually about a meter high, with rounded-off edges at the top. They are either flush with the outer wall or are offset a small distance from it. The crenellations are punctured with small view ports at varying levels. Though they appear decorative and are an iconic visual feature of the Fort, the crenellations are essentially a traditional defense feature.

2) Stone Missiles

There are stone balls and cylinders placed on top of the crenellations that are visible all along the periphery of the Fort even today. In earlier times these were used by the soldiers as missiles to be rolled down the slopes to thwart the invading enemy.

3) Gun Ports

At regular intervals along the inner side of the outer fortifi cation wall, twin stone projecting brackets are visible, which in earlier times were used for placing guns and muskets. These were mounted on a stone cross piece with a central pivot. Immediately above these platforms, an opening was provided in the wall forming a gun port.

This opening had chamfered edge sections that allowed for easy maneuvering of the guns and a wide ranging coverage of the surrounding slopes.

Gunports covering the main entrance gateways

4) View Ports

The crenellations of the outer fortifi cation walls are provided with small rectangular openings with sloped bases that angle down the slope of the Fort. These tiny holes are located at a 'general eye level' from the mori base.

These holes or view ports helped the soldiers standing in the mori to have easier visibility of the enemy - particularly down along the slope, while keeping the soldiers themselves protected from attack behind the walls. The view ports were an important defense feature that helped protect the Fort from invaders.

MORI

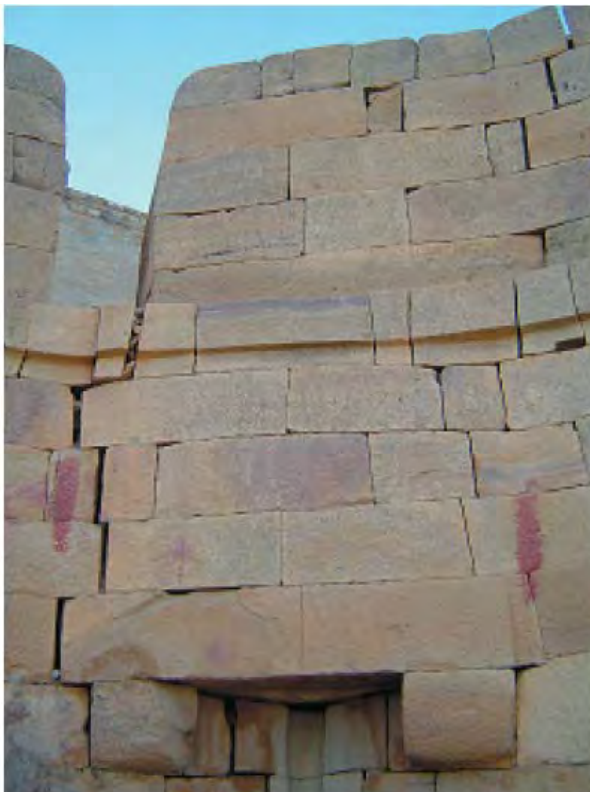
The mori is the narrow passageway between the outer and the inner fortifi cation walls that meanders around the upper perimeter of the Fort. Designed primarily for defense, it is fairly evident (from the pit digs carried out here) that the mori and the outer fortification walls were built simultaneously. The mori was primarily the space where the soldiers were stationed and kept vigil to prevent the Fort from being attacked. The space was wide enough to even allow horsemen to move around.

The mori is built entirely of dry stone masonry blocks laid out in a radial pattern, and it varies in width from a meter to 3 meters at places. Traditionally, the top layer of stone was laid on edge and sloped towards the spouts and toilet openings as that facilitated quick and easy drainage of water. This is an important design detail as the mori also functioned as the Fort's main drainage conduit for storm water.

TRADITIONAL SANITATION

Within the mori, at regular intervals along the outer fortifi cation walls, are a number of holes which are designed and function as toilet outlets. These shafts point to the fact that the mori was also used as a toilet space by the Fort residents and the soldiers stationed in the mori. The design of these holes was such that they allowed for the direct disposal of human waste down onto the slopes without the use of water.

View of the meandering mori space



View of the traditional sanitation facilities along the outer bastion

INNER FORTIFICATION WALL

The inner fortifi cation wall and its circular bastions define the internal edge of the mori. The inner fortififi cation walls too are constructed entirely of dry sandstone masonry and vary in height from four to six meters. Some bastions of the inner fortifi cation wall are built up as platforms or damdama and were used to mount wheeled guns and cannons, the ammunition for which was stored in rooms below the bastion platform. Originally, before the outer bastions were built, the inner bastions formed the defense wall of the Fort. Later, with the outer bastions forming the main defense barrier, the inner bastions were absorbed into the residential quarters of the Fort. It was at this time that the crenellations of the inner bastions were fi lled in and jharokhas and windows introduced. As a result, the traditional severity of the inner fortifi cation walls today are highlighted, at the upper levels, by the contrasting decorative features of jharokhas, brackets, carved fenestrations etc, giving an innately unique characteristic to the Fort.

Inner fortification bastion,
SOURCE: World Monuments Fund

GATEWAYS

(known as pols in Rajasthani or proles in Hindi)

Entry to the Jaisalmer Fort is through a single gateway, Akhey prole, beyond which are three other majestic gateways that have to be traversed to enter the inhabited upper sections of the Fort.

Akhey prole

Period of construction mid 17th century **Patron** Maharawal Akhey Singh

Usage entrance gate

Architectural Form

It consists of two semi-circular bastions on either side, with a wooden doorway set in the central wall. Spanning the doorway is a single-storied structure, adorned with jharokhas (which at present houses a restaurant).

View of Akhey Pole,
Source: World Monuments Fund

Construction Material

Built of dressed rubble stone masonary in lime moratar.

View of Akhey Pole and the chowk
Source: World Monuments Fund

Suraj prole:

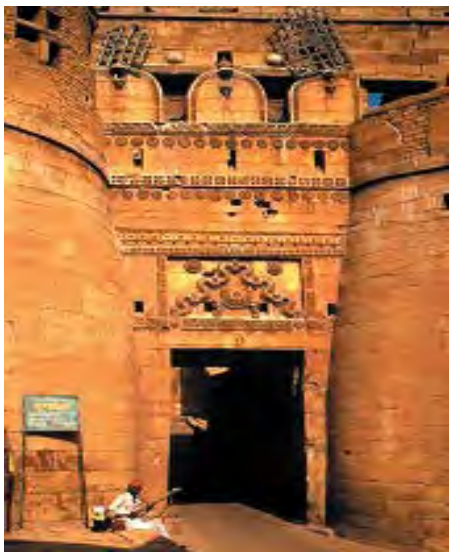
Period of construction mid 16th century **Patron** Maharawal Bhim

Usage entrance gate

Architectural Form

The façade of the Suraj prole is embellished with elaborate decorated carvings of a torana-vallari, with an imposing sun motif in the exact centre. This feature, and the fact that it receives the sun for most of the day, has probably given it its name.

Originally, prior to Akhey prole being constructed, this was the first gate of the Fort. On its right, a vigilancecum- bastioned minaret is capped with a distinctive voluted octagonal chattri.



View of Suraj Pole
Source: World Monumenst Fund

Construction Material

Built of dressed rubble stone masonary in lime moratar.

Ganesh prole

Period of construction 12th century **Patron** Maharawal Salivahan

Usage entrance gate

Architectural Form

It is the oldest gateway of the Fort Ganesh prole, named after the Hindu God Ganesha (son of Shiva and Parvati) whose image is carved on the main lintel.

Hawa prole

Period of construction mid 16th century **Patron** Maharawal Bhim

Usage entrance gate

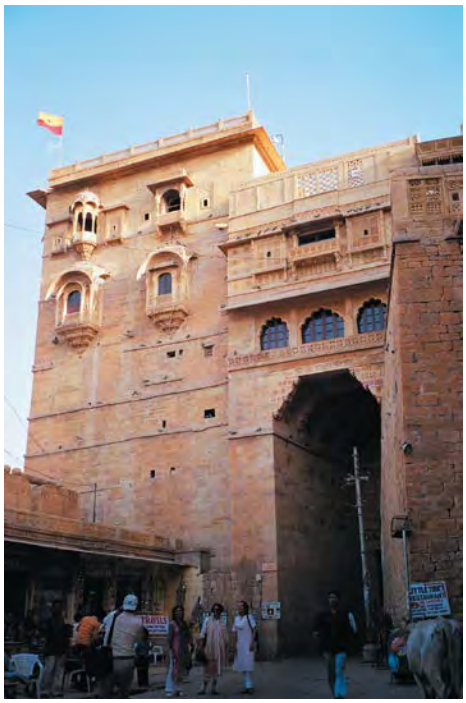
Architectural Form

It is believed that during the extension of the royal palace, as the load on the original palaces increased, one of the palace walls cracked and this prole was built as a buttress. It connects the palaces at the upper levels.

On the second floor, adjoining the main building of Gajvilas, is a hall known as the Rangmahal, which is decorated with beautiful murals. This prole, therefore, also assumes the name Rang prole.

Construction Material

Built of dressed rubble stone masonary in lime moratar.



View of Hawa Prole
Source: World Monuments Fund

CHOWK / CHOWTA

Public squares, locally known as chowk (in Hindi) or chowta (in Rajasthani), form the socio-cultural center of the community.

According to local historian, N K Vyas: “The threshold of each and every household of the Fort leads to a chowta.” The streets, along which are located the dwelling houses, all began from and terminated at a chowk. This clearly shows the essence of the chowk as a social community hub.

Dushera chowk

This central chowk, with the royal palaces on two sides and the Devi Temple on the third, is a classic example of a central square. This is the main space that greets both visitors and residents as one enters the Fort through the winding pathway and series of gateways. This royal chowk is perhaps the most vibrant place in the Fort, with hawkers, musicians, tourists viewing the beautiful palace facades, children playing and cows relaxing on the cobbled stones. It is the heart and the primary social space of the Fort.

View of Dushera Chowk,
Source: World Monuments Fund

STREETS

A series of winding pathways and alleys, paved with yellow Jaisalmer stone, form an interesting street pattern throughout the Fort. Varying in width from 1 meter to 2 meters, these primary, secondary and tertiary streets provide access to even the most remote corners of the Fort.


View of the streets in Jaisalmer Fort,
Source: World Monuments Fund

PADA

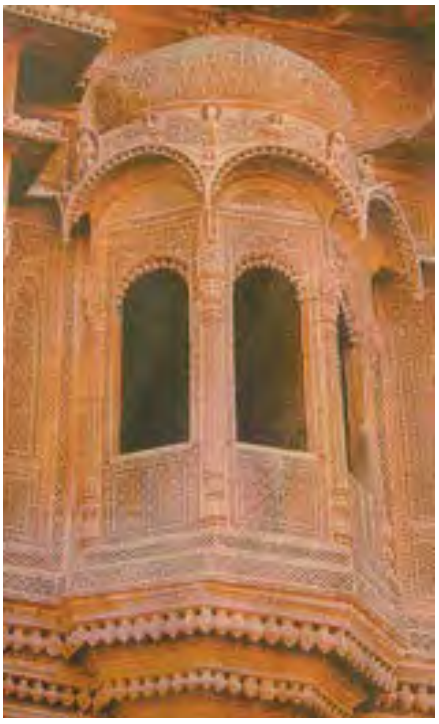
In the original design of the Fort, each neighborhood or pada had its own approach, entry and exit, well defined in terms of streets and chowks. The movement of people was restricted and this created the notion of a welldefined 'territory' for each pada.

HAVELIS

Single or double storied mansions with courtyards, belonging to the wealthier classes, are locally known as havelis. These were embellished with beautifully carved sandstone columns, jharokhas and brackets. Often far more embellished than the palaces, the scale, complexity and intricacy of carving was directly related to the importance of the building in the complex, and was indicative of the wealth of the merchant traders of Jaisalmer.

Jharokhas: Small balconies cantilevered out of the main structure are locally known as jharokhas. Traditionally, these were used as viewing galleries by the women of the household. Extensively carved in

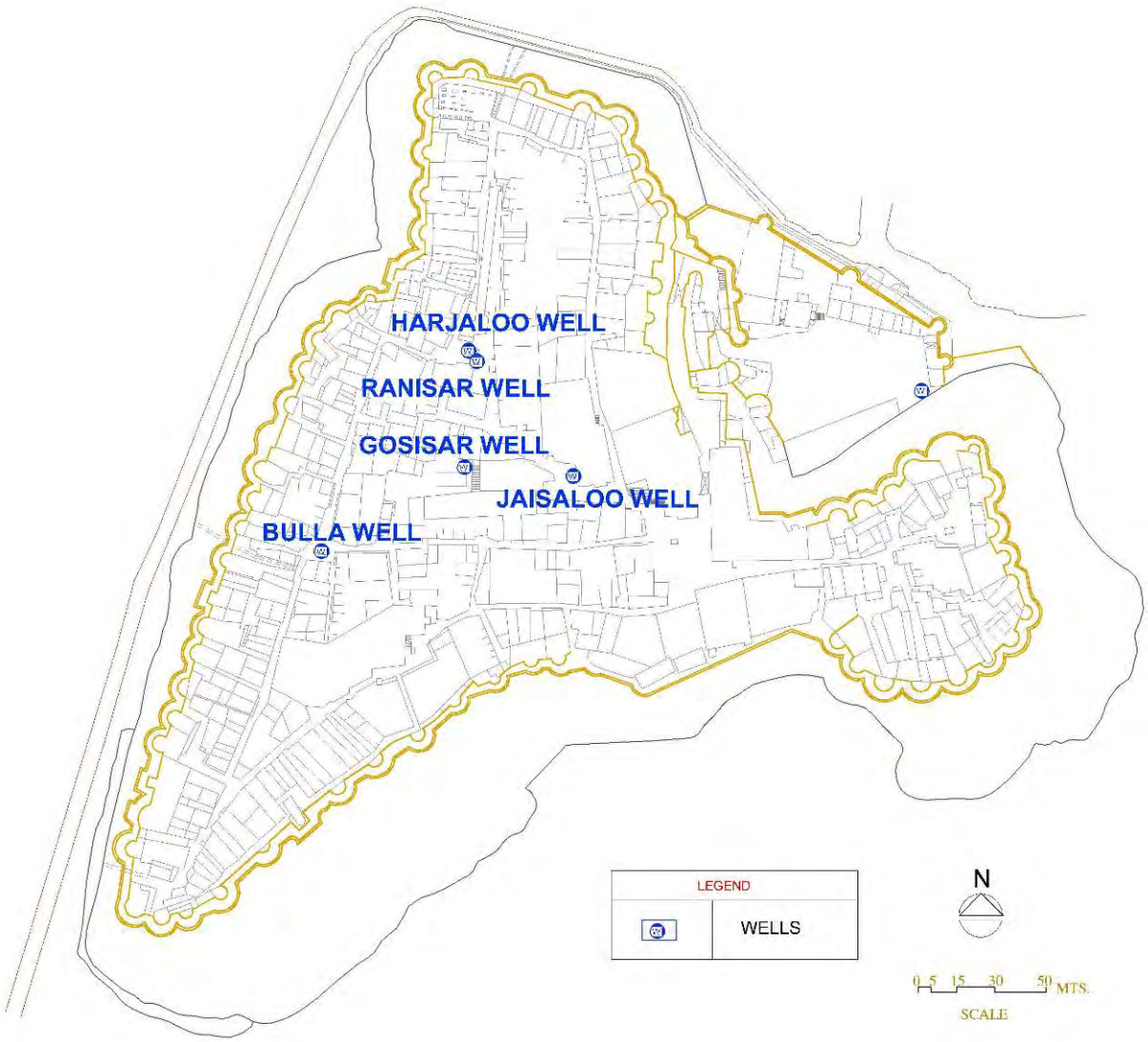
sandstone, this feature adorns all signifi cant structures within the Fort



View of a typical Jharokhas in Jaisalmer Fort,
Source: World Monuments Report

TRADITIONAL WATER SUPPLY SYSTEM

About seven wells located within the Fort also provided water to its inhabitants. However, the water from these wells was often brackish and saline and therefore could not be used for drinking purposes. Located in different parts of the Fort, these wells were:



Map showing location of various Historic wells within the fort structure.

Soursce:RUIDP

Jaisaloo well

Period of construction 12th century **Patron** Maharawal Jaisal

Usage Well

Considered to be the oldest well in the Fort. The presence of this well, is believed to be one of the prime reasons Maharawal Jaisal chose this site for his new capital. As mentioned earlier, legend has it that this well was dug by Lord Krishna with his sudarshan chakra for Arjun to quench his thirst, while they were passing by this spot.

Ranisar well

Period of construction mid 19th century **Patron** Maharawal Jaisal

Usage Well

The well is situated just 10 feet away from Harjaloo well was constructed by the queen of Maharawal Bairisal. Legend has it that the queen was piqued when her daughter's dasi was not allowed to draw water out of turn from the Harjaloo well; adding insult to injury, the Paliwals taunted the dasi, saying that if the queen was in such a hurry she should get her own well constructed. As a result, the queen is said to have had this well built.

Other water structures

Bulla well located in the Bulla pada neighborhood of the Fort.

Harjaloo well located near the Shiv Temple was constructed by Harjal Paliwal, the head of the Bhatti clan.

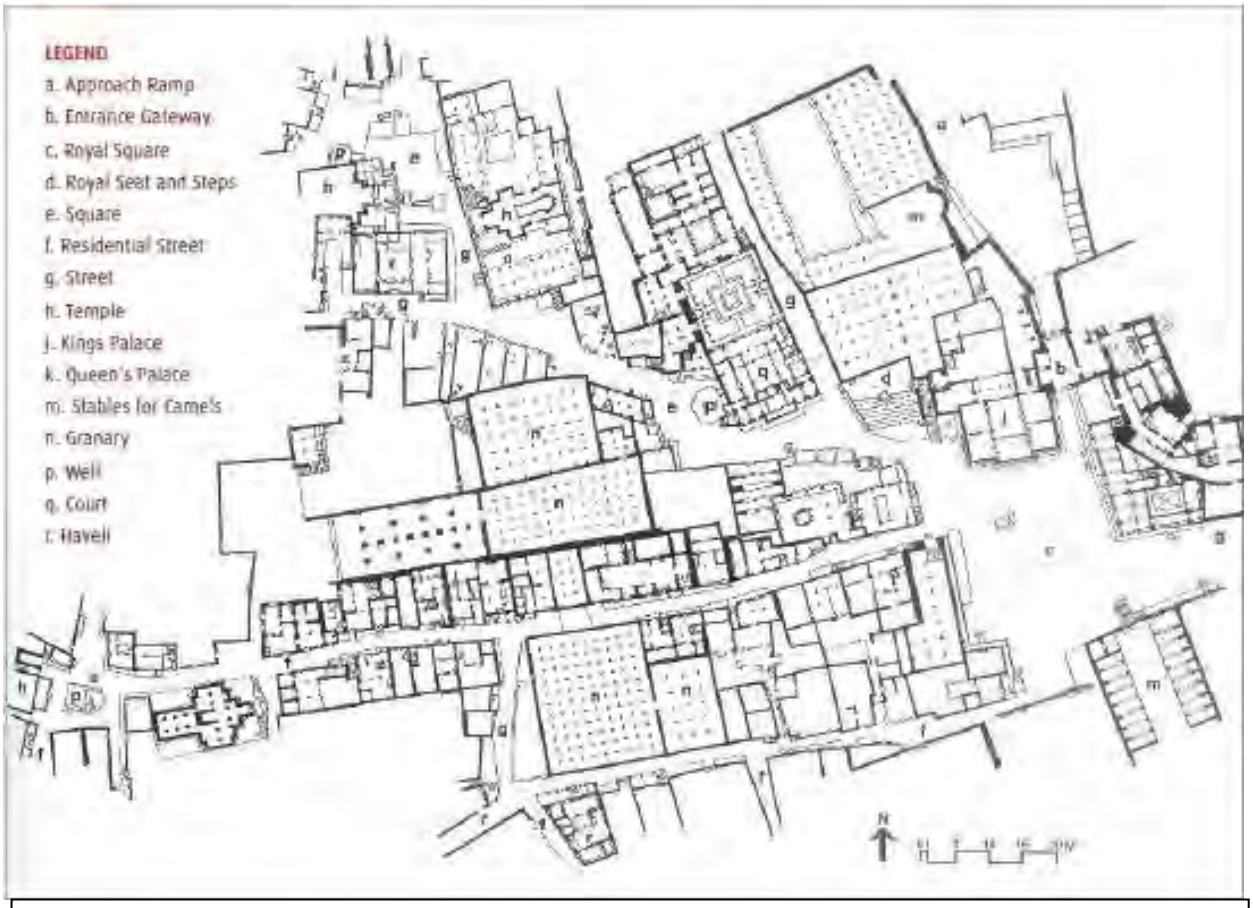
Khuniwala well, located on the platform facing the entrance chowk, close to Sh. Ram Dev Temple.

Ramdeora well, which was located just a few yards away from Khuniwala well.

Gosisar well, located in the Chaugan pada neighborhood.

RESIDENTIAL QUARTERS

Residential quaters are made well organized as they have a well developed and definite order of streets and buildings. Enclosed cluster formation are essential and useful community spaces which are active community spaces as well. One such space the holingda (used to light the holi festival fifi re) is within the *Kothari pada* area. It connects four streets and is very active throughout the day. About twelve houses open directly into this space, and many other houses from adjoining streets make use of it. The domestic architecture at this level displays a strong aspect of homogeneity. The spaces acquire a non specific character as they change in their use from morning to noon, and noon to evening. They are also used differently in summer and winter. Interior open spaces like courtyards, terraces and balconies have specific significance under such situations; they accommodate a variety of activities during different seasons or different parts of the day.

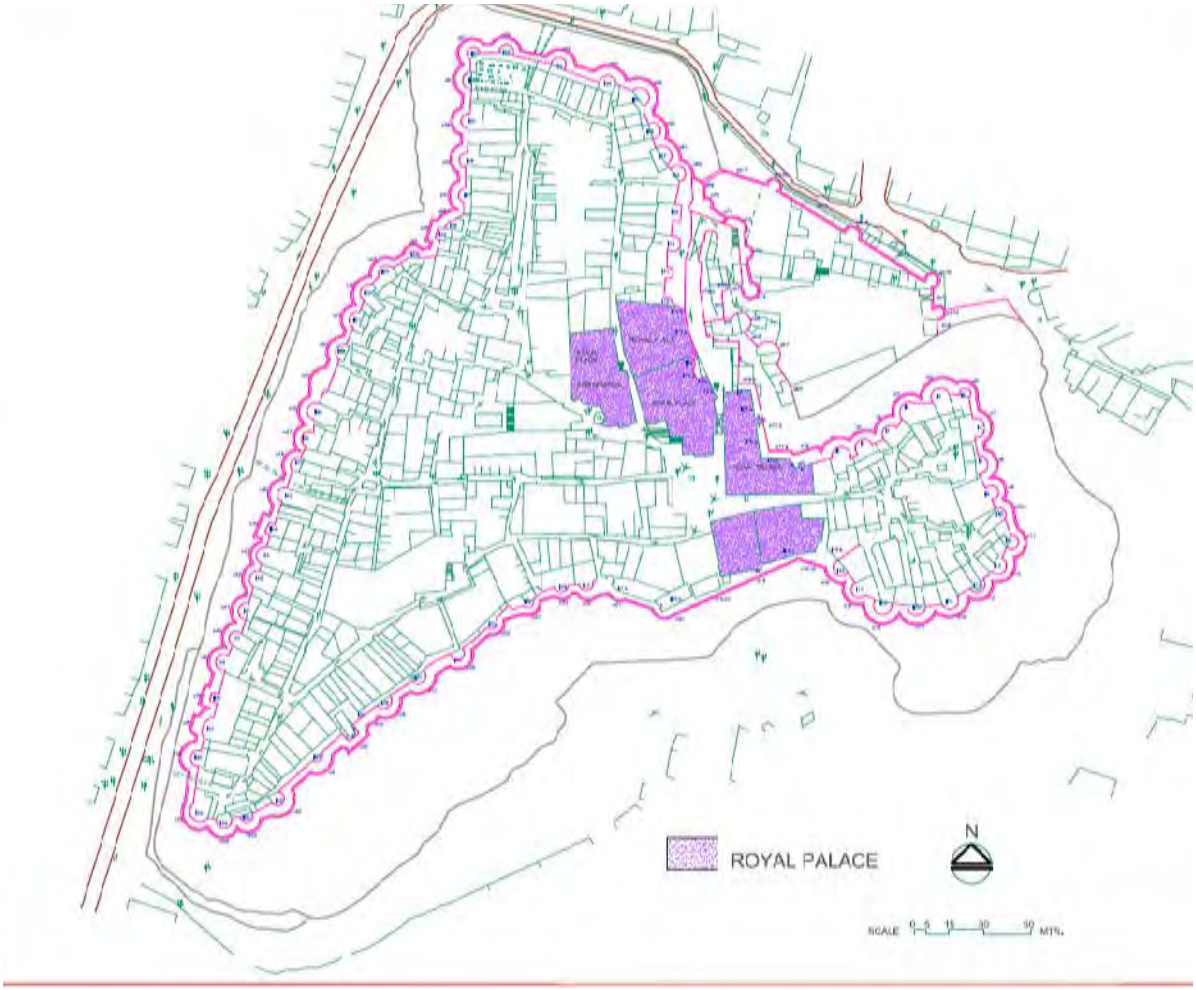


Plan of the Royal Chowk, source: World MonumentS Fund

Almost every house is built in yellow sandstone and has grown out of the modulation of domestic scale and has been dictated by the limitations of stone construction. The smallest house is a two-bay house, with one of the bays having a courtyard. The idea of a courtyard was also reinforced by climatic needs.

The number of bays increased as the house grew larger. Broadly, there are two categories of houses within the residential quarters. One type of house is the circular bastion house, where the major space of the house is in the bastion while, the courtyard and some other spaces extend outside it. Traditionally these houses were occupied by guards and their families. The other category is the set of houses built by poorer and lower communities, generally near the Fort wall of the city. Often, these people were from a rural background which reflects in the form and finish of their houses. Random stone masonry is finished with mud plaster, and major elements like doors and balconies have a wide border, characteristic of rural Rajasthan. The whole plan of the house is developed around the concept of privacy thereby generating very specific expressions and elements. Plinths in front of the house became informal interactive spaces separating the 'private' house from the public street. The house started opening up as one moved away from the street. The need for privacy was really from a stranger passing by than from the adjoining house or the one across the street.

PALACES



Map showing location of Palaces within the fort structure.

Source: RUIDP

The palace structures in the fort complex have not been dated before 1500 AD (Juna Mahal), though there is scope for archaeological research.

Juna Mahal

Period of construction 13-14th century **Patron** Maharawal Jaisal

Usage Palace

Architecture

Hence, the Juna Mahal with trabeate construction, *jharokhas* (balconies) projecting on corbels and temple columns could be amongst the oldest of surviving Rajput palaces, similar to the palaces of Chittor. The use of the *bangaldaar* (curved roof form from Bengal region) roof for façade treatment and the extensively carved sandstone *jali* (screen) panels are typical features of the fort. Juna mahal is one other palace it is seven a storied building it is placed under a huge metal umbrellawhich has been topped

on a shaft of stone.

Other structures

Gaj Vilas

Period of construction 19th century **Patron** Maharawal Gaj Singh

Usage Palace

Architecture

The later structures from the 19th century – (from reign of, 1820–1846) show decoration with greatly proliferated surfaces, the heaviness of the earlier phase replaced by intense richness in surface treatment. Decorative carving continued in Jaisalmer up to the 20th century without decline in artistic value unlike the case in other regions.

Moti Mahal

Period of construction 19th century **Patron** Maharawal Gaj Singh

Usage Palace

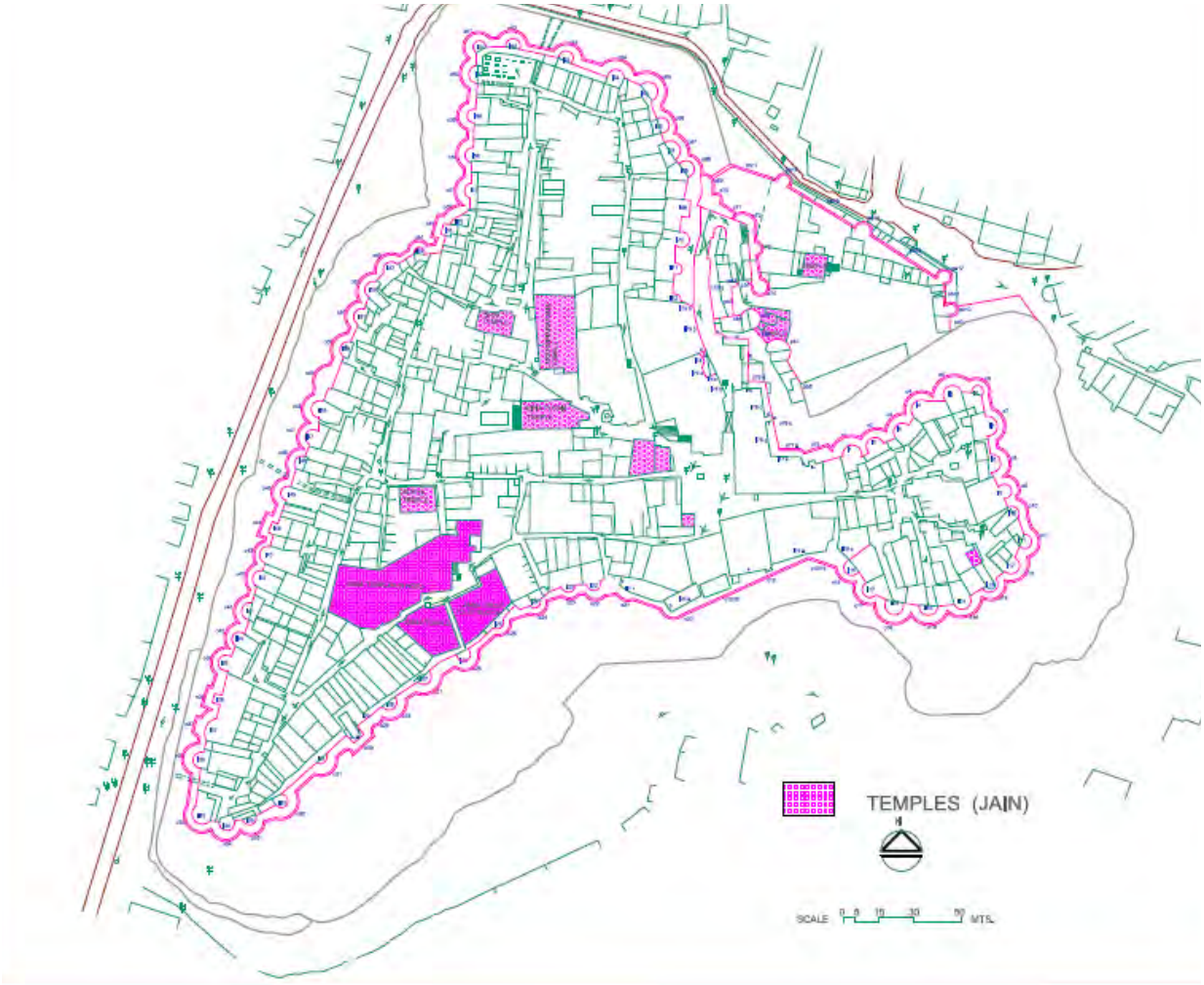
Architecture

One of the later structures from the 19th century – (from reign of, 1820–1846) show decoration with greatly proliferated surfaces, the heaviness of the earlier phase replaced by intense richness in surface treatment, the structures have decorative carving continued in Jaisalmer up to the 20th century without decline in artistic value unlike the case in other regions.

View of Rani ka Mahal.

Source: World Monuments Fund

TEMPLES



Map showing location of Palaces within the temples structure.

Source: RUIDP

A

Period of construction 12th century **Patron** Maharawal Jaisal

Usage Worship

The present Annapurna Temple is said to be constructed in around 12th century. According to local historian N.K Sharma, beneath the Annapurna Temple is the original temple where Rawal Nath performed the tilak ceremony for the king before he ascended the throne.

OTHER TEMPLE STRUCTURES

In 14th -17th century the construction of the Jain temples and the adjoining areas (present day Dhunda Pada) came up. The oldest of the Jain temples, Sh. Chintamani Parsavnath

Jain Mandir, dates back to 1389 AD and was built over 84 years. The other Jain temples built during this period are:

• Sh. Shital Nath Jain Temple, 1470 AD

- Sh. Mahaveer Swami Jain Temple, 1473 AD
- Sh. Sambhavnath Temple, 1497 AD
- Gyan Bhandar, 1500 AD
- Sh. Chandra Prabhu Swami Temple, 1509 AD
- Sh. Shanti Nath Temple, 1536 AD
- Sh. Rishabh Dev Jain Temple, 1536 AD

The Hindu Vaishnava temples were also built around this time. The oldest, Shiv temple, presently called the Ratneshwar Mahadeo temple, dates back to 1490 AD.

The other temples, Sh. Laxmi Nath temple and Surya temple date back to 1494 and 1496 AD respectively

A number of dancing figures and carved deities are housed there.

The temple facades are highly decorated with intricate designs and motifs. All the temples are in yellow sandstones.

The pillars have highly decorative features and motifs. The use of the *bangaldaar* (curved roof form from Bengal region) roof for façade treatment and the extensively carved sandstone *jali* (screen) panels are typical features.

View of temple

Source: DRONAH

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